FORT DETRICK:

The Reality Of Bio

By Richard

In 1964, one of the most knowledgeable and enlightening books on CBW, entitled "Tomorrow's Weapons," by J. H. Rothschild, was published by McGraw Hill. Its author, a retired Army general, has some amazing and startling things to say about both chemical and biological warfare. "These weapons often appear mysterious and sinister to the general public. I think that much of the responsibility for this feeling falls on our government which, by placing great restriction on the public discussion of these weapons by military officers, has fostered this miasma of ignorance." Or, again, "The public will never be able to decide what it thinks about chemical and biological weapons unless it is given information about them. An uninformed public will not support urgently needed research and development of these weapons, nor will it be prepared psychologically for their use against us. So long as we neglect these aspects of war, we are giving a potential enemy a tremendous advantage." General Rothschild also notes: "In the last few decades none of the top government executives has made a public statement on the subject of chemical and biological warfare. This is quite in contrast to the situation in the Soviet Union, where many top officials have expressed the view that future wars will see the use of chemical and biological weapons on a large scale."

There is almost an hysterical note about the effects of chemical and biological warfare whenever they are discussed among many Americans. Some apparently regard their potential use with an extremely pessimistic view, perhaps thinking only in terms of the mass destruction of human lives that nuclear bombs can produce. They apparently overlook the one or two principal advantages that CBW can offer in a war. For one, both of these categories of agents can incapacitate without tearing off arms and legs. In a relatively few days, the enemy can be up and around again. Secondly, a town or city can be captured without blowing up the entire city in the process.

Rothschild says, "When we examine the weight of evidence on the subject of whether chemical and biological warfare are more humane than other weapons of war, it would appear that they cause less suffering at the time of attack, and less permanent after-effects than other methods of causing casualties in war."

In the United States there has been considerable discussion about biological warfare by a number of people who do not adequately understand its nature. While we have seen a great many books speaking of the extreme results that are said to be possible–such as mass plagues, agonizing deaths, and out-of-control epidemics–there are also gradations in a biological attack, where sickness may indeed be induced but death will not necessarily result. While we are hurling statements back and forth at each other about whether biological warfare developmental efforts should or should not be continued, and whether research ought to be abolished, another country that we know so well doesn't have these built-in problems of decision.

Again, Rothschild says, "Since 1955, the Soviet Union has made an intense effort to train a large proportion of the population in civil defense. Four compulsory courses of training, both theoretical and practical, have been conducted, totalling up to 64 hours for each citizen. Chemical and biological defenses have constituted a large part of the training. As an example, in the last course, of 18 hours' duration, well over four hours were devoted to these subjects, including instruction in the detection of chemical and biological agents in the soil, water, on hard surfaces, and in the air, the decontaminated areas, first aid for gas casualties, and the use of shelters. The

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previous courses had dealt in detail with the natures of chemical and biological agents and the use of protective measures required by an individual. Leon Goure, in his book, 'Civil Defense in the Soviet Union,' estimates the number of people who have been trained up to this time at between 50 and 100 million.

"The training of Russia's civilians goes even so far as teaching the means of protecting livestock against chemical and biological warfare by means of regularly designed masks, emergency masks and shelters.

"The individual protective devices for civilians include a wide range of items. The latest civilian gas masks, model GP'4U, an excellent item, even carries instructions on how to prevent it from becoming contaminated with radioactive fallout by covering the canister with an additional layer of cloth or other filtering material. It has a double outlet valve, which gives a high degree of protection against biological agents (or even chemical agents), leaking back into the mask via that route. In addition, civil defense personnel will use the military mask at times, and also an oxygen mask for special purposes. For emergencies, the manuals give instructions on preparing dust masks from cloth or gauze to be tied over the nose and mouth, or over the entire face. These would give no protection against gases but give a degree of protection against aerosols. A special protective bag is said to be available for infants.

"The civil defense policy now in effect calls for the distribution of masks to civil defense personnel, and for the training of the general populace. The rest of the population will receive masks when the Soviet government believes the danger of war is imminent."

Now let me pose a few questions to you. Have you ever seen or put on a gas mask? Has anyone ever come to your door and given you instructions on what to do in case of a biological or chemical attack? Do you know where your nearest shelter is? When the Civil Defense of Frederick was asked what kind of protection was being offered to the public to protect itself against such a possibility, the reply was that they didn't handle CBW defense. It was a responsibility of the Federal government. Obviouslyly, the government must not think it of sufficient priority, as the Russians do, to prepare for a possible CBW attack on this country.

Let's try to imagine, with the assistance of Colonel Crozier, the Commanding Officer of the U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick, what such an attack might be like, if it occurred today. What defenses might we have to combat it? How would we cope with such a situation?

"The only defense against biological warfare that we have in America today," says Colonel Crozier," is a medical defense. If an attack on this nation occurred tomorrow, the only possible way we would have to defend ourselves would be through the use of the vaccines we have discovered here at Detrick—provided the bacterium or virus was one that we were familiar with. We would have to vaccinate on a mass scale. If we received warning of an attack in advance, which is unlikely, because as yet we do not have a functional warning system, we might also be able to use gas masks for protection, along with shelters."

Let's imagine, for instance, that it is around two in the morning. The air is cool, and a plane glides silently through the night. Inside, the pilot checks his map, to verify his geographical position, and checks the meteorological conditions, as well, in order to make certain which way the wind is blowing and how fast. When he has determined that the moment is right, he releases a valve, and silently, out of the back of the plane a white-to-colorless aerosol plume begins to fill the air. The

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aerosol sprays out onto the air a living virus, for example the Dengue Fever virus. It must reach its taget within a certain period of time, because otherwise the strength of the virus will become ineffective, through the influence of several environmental factors, such as humidity, ultra-violet radiation from the sun, and others.

The plane is flying at right angles to the wind. Now that the pilot has released his spray, the wind silently does the rest. To the eye, the spray will not be noticeable. Nor can it be felt, smelled, tasted, or otherwise detected by the physiological senses.

Let's also assume that the town under attack is an enemy-held town with many of our own troops being held as hostages. If a bomb had been dropped, our troops would probably be killed or severely injured along with the enemy. Yet, the town must be taken. The decision to use Dengue fever was reached because it is an acute, disabling viral disease, characterized at the onset by fever, chills, intense headache, backache, pain behind the eyes, joint and muscle pains, general weakness, and prostration. The fever rarely exceeds 105 degrees F, and it lasts from five to six days.

Because as yet the United States has not perfected a warning system (although one is currently being developed with priority at Detrick), there would be no way for anyone in that town to realize at the time that they are under biological attack. In the end, there would be only one way to detect it, the casualties that would occur.

Between five to eight days after the assault, members of that community will begin to fall ill with sudden fever, the chills previously described, the intense backache, pain behind the eyes, etc. Obviously, with this sudden outbreak of an identical illness of many, there would be a justifiable suspicion that a biological assault had been launched.

If the attack had been made against our forces, the very next step that must be made in combating the assault, of course, would be to discover exactly which germ or virus had been employed against us. This could take many hours and maybe even days. Once the disease has been identified, curative steps can be taken.

"The moment we discover what the illness is," says Colonel Crozier, "our next step is treating the members of that community who have been exposed to the assault. We would use drugs, vaccines, or a combination of the two. We would have to go on the radio or TV in order to explain to people what they have been exposed to, how the disease will affect them, what they can do about it, where they can go to get vaccinated, and of course instruct them on how to care for themselves until they are well. This will keep the hospital from being overrun with frantic patients."

Even though Dengue fever is one of the most incapacitating viruses, it is the least fatal of the epidemic diseases. It does not spread directly from person to person but is spread by insects, like the mosquito.

Assuming that this has been a surprise attack, no members of the community in which the assault has been made had previously had any preventive vaccinations. The enemy, who has made the assault, knows that within five to eight days after the aerosol has been released, many member of that community are likely to be highly incapacitated. When their armies move in, the chances are there will be little or no resistance from the town. The enemy, since it already knows the disease agent employed, will have taken steps to protect its own personnel.

It is worthwhile comparing what would probably have happened in World War II in such a situation. If there were both friendly and enemy forces inside that town, they both would have to suffer the same fate, a continual bombardment from artillery, before the armies even began to assault the town directly. Most of the town would have been destroyed by this bombardment, and if it were a large city, no doubt aerial bombardment would have preceded the artillery. Then the tanks would have moved in, along with the infantry, and a destructive house-to-house fight would have ensued.

By the time the assault was ended, very little would be left of the city or the people in it. At least under biological attack, it is possible to save lives, and to avoid prolonged destruction. You can't do too much about a man who has been blown to bits, or children who have died from fire or concussion, but you can restore health to an enemy who has an incapacitating disease. I admit that neither choice is one to delight in, but if I had to go through it myself, I'd rather be ill for a week then dead for eternity.

Most critics of chemical or biological warfare have a way of imagining that death is invariably the one and only result of such attacks. They believe that all chemicals kill, along with all germs. There isn't any doubt that there are some very deadly germs, and many deadly chemicals, but truly, if human beings must die in war (and let's hope that they do not have to!), is it really more humane to blow them to bits, to shower down over them radioactive particles, to jab a bayonet into their stomachs, than it is to neutralize them with chemicals or germs? There can be no real validity here to the argument that one means of killing another human being during a war is more humane than another. All means of warfare, without exception, are inhumane. If we believe we can choose intelligently between a hydrogen bomb, and a virus, we are indeed in trouble. Both are weapons of war, but their means of accomplishing their purposes are quite different. Both should be outlawed by mankind as a whole, but if in today's world this is impossible (and it seems to be), then it is folly to compare and select which one is "more humane" than the other.

Since the obvious destructive powers of the atomic weapons are apparent to every nation, and the unassailable fact that using them on a large scale could bring our world to an end, it seems quite feasible and logical that chemical and biological warfare should come more into prominence as a means of waging a limited war if not a world-wide one.

Colonel Crozier ends his conversation about biological warfare on a note of warning, yet at the same time, there is a note of optimism in his words.

"Certainly, biological warfare is feasible," he says seriously, "which means that at some time in this country's future, we may have to defend ourselves against an attack with disease-producing organisms. And as you can see, the main defense against such an attack would have to be a medical defense. As I look at the situation now, I firmly believe that taking care of the civilian population would be a far greater problem than taking care of the military. Our soldiers have many more shots against disease than civilians have. They would be better prepared than civilians would, of course, unless we were at war and knew in advance what civilian inoculations might be given. Right now, we don't have precise answers as to what the problems might be in case of an attack, or how we would face one. But I can say this, it is only by facing the threat of a biological attack and continuing to do research as we do out here at Detrick that we will be able to successfully confront one if it ever comes."

Since no nation has as yet used biological warfare on any scale of importance, no one knows precisely what would happen. But because a nation does not know exactly what will happen is not a valid or prudent reason to abandon efforts to discover what ought not to happen, or in our failure to be thoroughly prepared for such a possibility. Wishing away chemical and biological warfare in the United States, unfortunately, does not end the research and development carried out these fields in other countries throughout the world.

(The concluding part to this series, Fort Detrick: A Symbol of Crisis, will be published on Monday, Nov. 17.)